
Wisconsin Karner Blue Butterfly Habitat Conservation Plan and Environmental Impact Statement

Chapter 9: Glossary of Terms and Acronyms

This glossary is intended to clarify technical terms and acronyms and provide a context in which words with unclear or multiple connotations are used.

Adaptive management: A formal, structured approach to dealing with uncertainty in natural resource management, using the experience of management as an ongoing, continually improving process; the underlying operating principle of the Wisconsin Statewide Karner blue Butterfly Habitat Conservation Plan.

Audit: independent evaluation of various aspects of partner performance under their legally-binding conservation agreements.

Autecology: the ecology of a species or of individual organisms in relation to the environment. (see also "synecology")

Barrens: areas of sandy soil that are dominated by grasses, low shrubs, and small trees, and are subject to frequent disturbance. In general, the barrens community takes the form of pine barrens in northern and central Wisconsin and oak barrens in southern and west-central Wisconsin. Bracken grasslands are also part of the barrens community.

Biological opinion: a document which includes: (1) the opinion of the USFWS as to whether or not a federal action is likely to jeopardize the continued existence of a listed species, or result in the destruction or adverse modification of designated critical habitat; (2) a summary of the information on which the opinion was based; and (3) a detailed discussion of the effects of the action on listed species or designated critical habitat.

Biotope: a region with uniform environmental conditions, as well as populations of plants and animals.

Bivoltine: a species that completes two generations per year.

Compensatory mitigation: a form of mitigation in which impacts are compensated for by replacing or providing substitute resources or environments; land banking a particular habitat type; one of four conservation strategies being applied in the statewide HCP.

Canopy: the coverage of branches and foliage formed collectively by the crowns of trees or shrubs.

Canopy cover: the proportion of overstory (trees) or understory (shrubs) canopy that blocks out sunlight.

Changed circumstances: changes in circumstances affecting a species covered by an HCP and ITP that can be reasonably anticipated by the plan developers during plan development and negotiation. (see also "unforeseen circumstances")

Congressional Federal Register (CFR): the official publication and proceedings of the United States Congress.

Conservation agreement: legally-binding contract between the DNR and HCP partners outlining lands and activities included in the Karner blue butterfly conservation effort, public outreach and education efforts partners agree to implement, partner monitoring, reporting, and auditing responsibilities, the period for which the agreement binds the partners, and partner obligations to modify land management practices through adaptive management. Conservation agreements form the basis of the DNR's application for a statewide incidental take permit; also called a "species and habitat conservation agreement."

DATCP: the Wisconsin Department of Agriculture, Trade and Consumer Protection, a state agency; an HCP partner.

Dispersal: both the movement of individuals between and within habitat sites.

Dispersal corridor: a corridor of open canopy through woodlands, connecting areas of suitable habitat and/or subpopulations.

Disturbance: activities, such as burning, mowing, or tree harvesting, that interrupt natural plant succession and allow for early successional species to persist or colonize an area.

DNR: the Wisconsin Department of Natural Resources, a state agency; an HCP partner and the lead applicant for an incidental take permit.

Documented range: an area including all the known Karner blue butterfly element occurrences in Wisconsin; an area mapped by the HCP Biological Team in 1996 and used as the basis for conservation planning.

Driftless Area: a region that includes southwestern Wisconsin, and immediately adjacent parts of Illinois, Iowa, and Minnesota. Continental ice sheets during the Pleistocene Epoch surrounded this area, but did not cover it.

Easement: a right, such as a right-of-way, to make use of the real property of another.

Ecosystem: a biotic community and its abiotic environment, considered together as a unit. Ecosystems are characterized by energy flow that leads to trophic structure and material cycling (exchange of matter between living and nonliving parts); short for ecological system.

Ecosystem management: a system to assess, conserve, protect, and restore the composition, structure, and function of ecosystems, to ensure their sustainability across a range of temporal and spatial scales and to provide desired ecological conditions, economic products, and social benefits; a management philosophy adopted by the DNR.

Element occurrence: a discrete record of occupation as tracked by the DNR's Natural Heritage Inventory database; some occurrences may be combined into single populations or metapopulations pending further research on dispersal and behavior.

Endangered species: under federal law, any species or subspecies which is in danger of extinction throughout all or a significant portion of its range; under Wisconsin law, any species whose continued existence as a viable component of the state's wild animals or plants is determined by the DNR to be in jeopardy on the basis of scientific evidence.

Endangered Species Act (ESA): law enacted by the U.S. Congress in 1973 to protect plant and animal species that are in danger of, or threatened with, extinction.

Environmental assessment (EA): a public document that briefly provides evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact; a document prepared to comply with the Wisconsin Environmental Policy Act.

Environmental impact statement (EIS): a public document that provides an analysis of potential impacts of actions which potentially significantly affect the human environment; a document required by Section 102(2)(C) of the National Environmental Policy Act or by the Wisconsin Environmental Policy Act.

Exotic species: flora or fauna that are imported or not naturally occurring in a particular region, such as Wisconsin.

Extirpation: the elimination of a species from a particular area.

Federally-listed species: a plant or animal species listed as endangered or threatened by the USFWS under the federal ESA.

Forest land: an area of which at least one acre in size and contains at least ten percent tree cover.

Fragmentation: the breaking up of large and continuous ecosystems, communities, and habitats into smaller areas surrounded by altered or disturbed land or aquatic substrate.

Geographic information system (GIS): a system of computer hardware and software that can input, manipulate, and analyze large amounts of geographically referenced data to support decision making processes.

Habitat conservation plan (HCP): a formal plan, prepared pursuant to Section 10 of the federal Endangered Species Act, that specifies what the effects of landowner activities are likely to have on listed species, the measures that will be taken to minimize and mitigate these effects, the funding available to implement the measures, the alternatives that the applicant considered and reasons why such alternatives were not implemented, and any other measures the USFWS may require; Chapters I and II of this document.

Harass: an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering.

Harm: an act which actually kills or injures wildlife.

HCP: habitat conservation plan; a plan prepared under Section 10(a) of the Endangered Species Act. (see "habitat conservation plan")

Herbicide: a chemical use to control unwanted plants.

High potential range/habitat: the region of Wisconsin containing all Karner blue butterfly documented element occurrences and extending beyond the documented range to include areas with similar habitat, soils, and climate, where the Karner blue butterfly is most likely to occur. (see also "documented range")

Implementing agreement (IA): legally-binding agreement between the USFWS and the applicant for an incidental take permit under Section 10(a) of the Endangered Species Act; in this conservation effort, an agreement between the USFWS and the DNR.

Implementation Oversight Committee (IOC): a subset of HCP partners and non-partner cooperators which primarily exists to represent the partners' interests during the permit period; an institutional structure that advises the DNR, makes decisions on behalf of the partners, actively plans and provides services, and makes HCP-related recommendations to the partnership and the DNR.

Incidental take: take of a federally-listed species which occurs incidental to, and is not the

purpose of, other legal activities.

Incidental take permit (ITP): a permit issued by the USFWS, under Section 10 of the ESA, which allows the incidental take of an endangered species.

Incidental take statement (ITS): an authorization by the USFWS to a federal agency for a determined amount of take of a federally-listed species.

Inclusion: the process, outlined in the HCP, of obtaining Incidental Take Permit coverage.

Intentional take: an activity which results in the take of a federally-listed species which is not incidental to other legal activities (i.e. a violation of Section 9 of the ESA).

Known habitat: those areas that have been surveyed and in which wild lupine has been found in an abundance which can support Karner blue butterflies.

Known-occupied habitat: an area that currently supports Karner blue butterflies in association with wild lupine.

Land conversion: the change of land from rural or low intensity uses to urban or high intensity uses, such as agricultural land developed for a subdivision.

Landscape: an area composed of adjacent and interacting ecosystems that are related because of geology, land forms, soils, climate, biota, and human influences.

Landscape planning: planning at the landscape scale to allow for analysis and improvement of management activities that sustain ecosystem capability and achieve ecosystem management objectives.

Larvae: the wingless, early stage of a newly hatched insect before undergoing metamorphosis; caterpillar.

Local population: a group of individuals living in the same habitat patch, a continuous area of resources specific to the species surrounded by unsuitable habitat.

Management with consideration: a level of conservation focus in which the biological goal is for Karner blue butterfly habitat gains to equal or exceed losses occurring through natural succession or otherwise.

Management to enhance/feature: a level of conservation focus in which the biological goal is for Karner blue butterfly habitat gains to equal or exceed losses. Additional measures are taken, however, to promote viable Karner blue butterfly populations despite potential economic costs.

Metapopulation: a population of populations; each individual population within a metapopulation is referred to as a local population. Several metapopulation models have been suggested (e.g., Boorman and Levitt 1973, Gilpin and Hanski 1991, Thomas 1995)

Mitigation: methods of reducing adverse impacts of a project by: (1) limiting the degree or magnitude of the action and its implementation; (2) rectifying the impact by repairing, rehabilitating, or restoring the affected environment; (3) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; or (4) compensating for the impact by replacing or providing substitute resources or environments.

Morphology: the form and structure of an organism or any of its parts.

National Hierarchical Framework of Ecological Units: an information system defining the landscape as ecological units with particular physical and biological components.

Natural Heritage Inventory (NHI): an integrated system of computer databases, maps, and manual files that document the historical and current occurrence of rare plants, animals, and natural communities in Wisconsin. The Natural Heritage Inventory is maintained by the DNR's Bureau of Endangered Resources.

National Environmental Policy Act (NEPA): a federal law, enacted by the U.S. Congress in 1969, which establishes the nation's environmental policy, sets goals, and provides means for carrying out the policy. (PL 91-190, 42 USC 4321-4347 [January 1, 1970] as amended by PL 94-52 [July 3, 1975], and PL 94-83 [August 9, 1975]).

Native species: flora or fauna naturally occurring in a particular region, such as Wisconsin.

Nongame species: any species of wild animal not classified as a game fish, game animal, game bird, or furbearing animal in s. 29.01, *Wis. Stats.* Nongame animals include a wide variety of protected and unprotected species.

Nonpoint source pollution: pollution occurring in which the sources cannot be traced to a single point such as a discharge pipe. Nonpoint water pollution sources include soil erosion from farmland, forestry, and construction sites, chemicals from urban streets, and nutrients from storage piles and barnyards.

Nonvoluntary coverage: non-partner landowners and land users involved in activities and in locations that may significantly affect the Karner blue butterfly are required to obtain coverage for their actions by acquiring a Certificate of Inclusion as either a single project or as a partner.

"No Surprises" rule: USFWS rule, titled "Habitat Conservation Plan Assurances" and dated

February 23, 1998 (CFR 63(35):8859-8873), intended to provide economic and regulatory certainty for non-federal property owners with approved and properly implemented HCPs in the event of "unforeseen circumstances." (see also "changed circumstances" and "unforeseen circumstances")

Overstory: the layer of vegetation in the woodland setting that consists of the tree cover.

Participant: any parties desiring involvement in the Wisconsin Statewide Karner Blue Butterfly HCP process, but not wishing to be partners.

Partner: a landowner or user desiring to be included into the Karner blue butterfly conservation strategy for the term of the ITP; more than likely, a landowner or user intending to engage in various uses or activities over time on larger land holdings (e.g., large forest owner or entity engaged in right-of-way construction or maintenance). A partner is responsible to abide by the HCP Articles of Partnership, enter into a conservation agreement with the DNR, and perform duties and responsibilities as required of other partners.

Partner group: a subdivision of the general partnership of this HCP in which those included have similar characteristics, such as land management practices or conservation strategies (e.g., forest industry, utilities, etc.).

Partnership: the 27 public and private entities involved in the application for an incidental take permit through the development of this HCP, as well as future entities applying for and obtaining partner status.

Permanent take: an impact to Karner blue butterfly habitat, through land management or land use activities, that precludes Karner blue butterfly occupation of the site for a minimum of five years.

Pesticide: a chemical used to control unwanted insects or plants.

Potential range/habitat: habitat that will meet certain biotic and abiotic conditions to support wild lupine at any point in time, but not currently doing so.

Pupae: the inactive stage of metamorphosis of many insects, following the larval stage and preceding the adult form.

Recovery: activities, under the provisions of Section 4 of the ESA, engaged in with the intent of recovering a population of an endangered or threatened species.

Recovery plan: a plan developed under Section 4 of the ESA for the conservation and recovery of a federally-listed species; a federal responsibility.

Right-of-way (ROW): the strip of land over which facilities such as highways, railroads, or power lines are built that is usually a leased right of passage over the property of another.

Roundwood: logs, bolts, and other round sections cut from trees (including chips from roundwood).

Sampling: the process of selecting a set of elements to estimate the characteristics of a population.

Sand prairie: an community consisting of xeric prairie vegetation that is dominated by sandy soils.

Savanna: a community that was historically part of a larger ecotone complex bordered by the prairies of the west and the deciduous forests of the east. This ecotone was a mosaic of plant community types that represented a continuum from prairie to forest. Savannas were the communities in the middle of this continuum. Characteristically, savannas have less than fifty percent crown cover.

Saw logs: the central stem between the stump and the top portion of a tree; saw logs are harvested for industrial roundwood products.

Senescent: a plant at the stage from maturity to dormancy or death.

Shifting mosaic: a land management strategy where, for this HCP, habitat patches appropriate for the Karner blue butterfly are shifted across the broader landscape to allow for colonization from older patches as they are lost to natural succession. Land management activities would plan disturbance patterns in accordance with this concept.

Silviculture: the theory and practice of controlling the establishment, composition, growth, and quality of forest stands in order to achieve management objectives.

Single project permittee: a landowner or user confronted with the presence of Karner blue butterflies regarding a project, but not expecting to address the issue on a long-term basis or on other lands or regarding other activities (e.g., development of a commercial establishment).

Special concern species: species that appear to be threatened because they are uncommon, restricted to unique or highly specialized habitat, or vulnerable to loss for various reasons; a classification used by the DNR for management purposes, but which is not defined in state statute or administrative code and therefore has no regulatory significance.

Species and habitat conservation agreement: A legally-binding agreement between the Wisconsin DNR and an HCP partner outlining the specific conservation strategies which the partner will undertake as a condition of the statewide incidental take permit coverage. Referred to in this HCP as a conservation agreement. (see also "conservation agreement")

Spring flight: the first and smaller of the two Karner blue butterfly flight periods in Wisconsin. Karner blue butterfly eggs overwinter and hatch in the spring; adults emerge in late spring to early summer (between May and late June).

State-listed species: a plant or animal species listed as endangered and threatened by the Wisconsin DNR under the state endangered species laws.

Succession: progressive changes in species composition, organic structure, and energy flow of a natural community over time.

Summer flight: the second and larger of the two Karner blue butterfly flight periods in Wisconsin, occurring between early July and mid-August.

Synecology: the study of the environmental interrelationships among communities or organisms. (see also "autecology")

Take: to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.

Tension zone: the most pronounced environmental gradient in Wisconsin; located in a narrow band that runs from northwestern to southeastern Wisconsin. Many species of plants and animals reach the limit of their ranges in this zone. Although climate is a major reason for the tension zone, soil type and other factors also play a role.

Threatened species: under federal law, any species or subspecies which is likely within the foreseeable future to become endangered throughout all or a significant portion of its range; under Wisconsin law, any species which appears likely, within the foreseeable future, on the basis of scientific evidence to become endangered.

Timberland: forest lands capable of growing at least 20 cubic feet of commercial wood per year.

Understory: vegetative growth under the canopy layer on a woodland site.

Unforeseen circumstances: changes in circumstances affecting a species or geographic area covered by an HCP that could not reasonably have been anticipated by the plan developers, at the time of the HCP's negotiation and development, and that result in a substantial and adverse change in the status of the covered species; generally, catastrophic events of unprecedented nature. (see also "No Surprises" rule and "changed circumstances")

U.S.D.A.: the United States Department of Agriculture, a federal agency

USFWS: the United States Fish and Wildlife Service, a federal agency; agency with

responsibility for implementing and enforcing provisions of the Endangered Species Act.

U.S.G.S.: the United States Geological Survey, a federal agency.

Viable population: a population that is of sufficient size and distribution to be able to persist for a long period of time in the face of demographic variations, random events that influence the genetic composition of the population, and fluctuations in environmental conditions, including catastrophic events.

Vehicle miles of travel (VMT): a measure of traffic and highway use; the total number of miles travelled in one year

Voluntary coverage: those non-partner landowners that are not required to obtain a Certificate of Inclusion and are covered in the Wisconsin Statewide Karner Blue Butterfly HCP and ITP without further process.

Watershed: the land area that drains into an individual lake or river.

Wisconsin Environmental Policy Act (WEPA): a state law designed to encourage environmentally sensitive decision making by state agencies (s. 1.12, *Wis. Stats.*). This law describes Wisconsin environmental policy and requires state agencies to consider the environmental effects of their proposed action to the extent possible under their other statutory authorities.

Wis. Adm. Code: Wisconsin Administrative Code; a compilation of rules made by state agencies having rule-making authority; a component of Wisconsin state law.

Wis. Stats.: Wisconsin Statutes; Wisconsin's state laws.